

2. AMENDMENTS IN THE CLAIMS (LISTING OF CLAIMS)

This listing of claims will replace all prior versions and listings of claims in the application.

1. (Currently Amended) An adeno-associated viral vector comprising at least a first polynucleotide that comprises a promoter operably positioned upstream of an isolated nucleic acid segment encoding a biologically-active therapeutic mammalian serpin or cytokine polypeptide, wherein said promoter expresses said nucleic acid segment in a mammalian cell that comprises said vector to produce said encoded mammalian serpin or cytokine polypeptide.
- 2.-9. (Canceled)
10. (Previously Presented) The adeno-associated viral vector of claim 1, wherein said promoter is a mammalian β-actin promoter.
11. (Original) The adeno-associated viral vector of claim 1, wherein said vector further comprises at least a first enhancer sequence operably linked to said nucleic acid segment.
12. (Original) The adeno-associated viral vector of claim 11, wherein said vector further comprises a CMV enhancer, a synthetic enhancer, a liver-specific enhancer, a lung-specific enhancer, a muscle-specific enhancer, a kidney-specific enhancer, a pancreas-specific enhancer, or an islet cell-specific enhancer.

13. (Original) The adeno-associated viral vector of claim 1, wherein said vector further comprises a post-transcriptional regulatory sequence.
14. (Original) The adeno-associated viral vector of claim 13, wherein said regulatory sequence comprises a woodchuck hepatitis virus post-transcription regulatory element.
15. (Canceled)
16. (Previously Presented) The adeno-associated viral vector of claim 1, wherein said mammalian cell is a human pancreatic islet cell.
17. (Original) A recombinant adeno-associated virus virion comprising the vector of claim 1.
18. (Canceled)
19. (Original) A plurality of adeno-associated viral particles comprising the vector of claim 1.
20. (Previously Presented) An isolated mammalian host cell comprising the vector of claim 1.

21.-23. (Canceled)

24. (Currently Amended) A composition comprising the vector of claim 1, the recombinant adeno-associated virus virion of claim 17, the plurality of adeno-associated viral particles of claim 19; or the isolated mammalian host cell of claim 20.

25.-31. (Canceled)

32. (Currently Amended) A kit comprising:

(a) the adeno-associated viral vector of claim 1, the virion of claim 17, the viral particles of claim 19, the isolated mammalian host cell of claim 20, or the composition of claim 24; and

(b) instructions for using said kit.

33. (Withdrawn) A method for preventing, treating or ameliorating the symptoms of a disease, dysfunction, or deficiency in a mammal, said method comprising administering to said mammal the virion of claim 17, or the viral particles of claim 19 in an amount and for a time sufficient to treat or ameliorate the symptoms of said disease, dysfunction, or deficiency in said mammal.

34. (Withdrawn) The method of claim 33, wherein said mammal is a human.

35. (Withdrawn) The method of claim 34, wherein said mammal has, is diagnosed with, or is at risk for developing, diabetes or an autoimmune disorder.
36. (Withdrawn) The method of claim 33, wherein said virion or said plurality of viral particles is administered to said mammal intramuscularly, intravenously, subcutaneously, intrathecally, intraperitoneally, or by direct injection into an organ or a tissue.
37. (Withdrawn) The method of claim 36, wherein said organ or tissue is selected from the group consisting of pancreas, liver, heart, lung, brain, kidney, joint, and muscle.
38. (Withdrawn) A method for treating diabetes in a mammal suspected of having, or at risk for developing diabetes, said method comprising providing to said mammal the composition of claim 24, in an amount and for a time sufficient to treat said diabetes in said mammal.
39. (Withdrawn) The method of claim 38, wherein said mammal is human.
40. (Withdrawn) The method of claim 39, wherein said mammal is human with a familial history of diabetes.
41. (Withdrawn) A method for preventing Type I diabetes in a human suspected of having, or at risk for developing Type I diabetes, said method comprising prophylactically

administering to said human the composition of claim 24, in an amount and for a time sufficient to prevent said Type I diabetes from developing in said human.

42. (Withdrawn) A method for reducing the rate of disease progression of Type I diabetes in a human diagnosed with Type I diabetes, said method comprising administering to said human the composition of claim 24, in an amount and for a time sufficient to reduce the rate of disease progression of said Type I diabetes in said human.
43. (New) The adeno-associated viral vector of claim 1, wherein said cytokine is an interleukin.
44. (New) The adeno-associated viral vector of claim 43, wherein said interleukin is IL-4 or IL-10.
45. (New) The adeno-associated viral vector of claim 44, wherein said interleukin is IL-10(I87A).
46. (New) An adeno-associated viral vector comprising at least a first polynucleotide that comprises a mammalian β -actin promoter operably positioned upstream of an isolated nucleic acid segment that encodes a biologically-active mammalian interleukin polypeptide comprising the sequence of SEQ ID NO:1 or SEQ ID NO:3; wherein said promoter expresses said nucleic acid segment in a mammalian cell that comprises said vector to produce said encoded mammalian interleukin polypeptide.

47. (New) The adeno-associated viral vector of claim 46, wherein said vector further comprises a woodchuck hepatitis virus post-transcriptional regulatory sequence operably linked to said nucleic acid segment.